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Book Review

Introduction to Energy Technology.
M. L. Shepard, J. B. Chaddock, F. H. Cocks and C. M. Harman, Ann Arbor Science Publishers Inc., Ann Arbor, Michigan, 1976, 300 pages, $13.75.

The problems associated with meeting present day and future energy requirements are so varied and, at times, emotive in character, that their presentation in one volume is indeed a formidable task. The authors of this book have sensibly related technical and economical aspects of their subject to predicted fuel and material supply difficulties.

Any joint effort by as many as four authors can be assumed to contain chapters that vary in style and nature of content. Noticeably the development of some forms of energy conversion are dealt with purely from the American outlook whereas others are given more universal coverage. Nevertheless an interesting introduction to all the principle methods of providing and storing energy has been given.

Only a few typographical errors were noticed but some of these could be confusing to students, *e.g.* Fig. 93 on p. 217 includes a correctly identified magmatic intrusion which is wrongly called a 'magnetic' intrusion in the text on the same page. Similarly, mention of the formation of a space-change barrier on p. 254 rather than the intended space-charge barrier in a thermionic converter might give false ideas.

It would take a purist who knows that electrons are always negatively charged to object to the description of a beta particle as a negatively charged electron. However the statement in Chapter 5 that expulsion of a beta particle by a nucleus effectively converts a proton to a neutron defies comprehension. A more accurate and useful definition of the half life of a radioactive element than that given would be:- The length of time required for the radioactivity of a substance (which falls exponentially with time) to decrease to one half of its original level.

This book is undoubtedly mainly intended to be used by students as nearly all Chapters are terminated by a number of set Problems. These Problems are only of value to those following a formal course on the subject, where informed criticism or marking of their answers can be given. It is considered that all readers would derive more benefit if some at least of these Problems had been replaced by the inclusion of more extensive references.

Introduction to Energy Technology cannot fail to create a better awareness in all who read it of the future difficulties in meeting the world's energy demands. Let it be hoped that the engineers and scientists concerned can succeed without adopting solutions that create even greater problems for those who follow.

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